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DESCRIPTIONS OF NEW LIZARDS AND SNAKES FROM MEXICO AND GUATEMALA.

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Among the reptiles collected in Mexico during the past year in pursuance of my studies of the Mexican herpetological fauna under grant from the Walter Rathbone Bacon Traveling Scholarship fund of the Smithsonian Institution, several new species and subspecies have been discovered which it is desirable to describe and name at the present time.

Ameiva undulata hartwegi, new subspecies.

Holotype.—U. S. National Museum No. 108600 (H.M.S. field No. 8208) from Chiapas, Mexico, directly across the Usumacinta River from Piedras Negras, Guatemala.

Diagnosis.—A subspecies of Ameiva undulata characterized by having small, irregular, median gular scales smaller than preanals or mesoptychials; preanals in two rows; lamellae under fourth toe 29 or more; femoral pores 18 or more.

Remarks.—This subspecies is the same as variety A of Hartweg and Oliver (Occas. Papers Univ. Michigan Mus. Zool., No. 359, 1939, p. 7), and also the same as undulata parva Smith (Occas. Papers Univ. Michigan Mus. Zool., No. 388, 1938, pp. 4–5).

The form is named for Doctor Norman Hartweg in recognition of his very important contributions to the understanding of the subspecies of *Ameiva undulata*.

Ameiva undulata stuarti, new subspecies.

Holotype.—U. S. National Museum No. 108601 (H.M.S. field No. 8809) from Palenque, Chiapas, Mexico.

Paratypes.—Thirty-nine specimens (H.M.S. field Nos. 8471-4, 8483-5, 8502-4, 8506-11, 8550-2, 8673, 8684-6, 8750, 8754, 8762-3, 8790-1, 8798-9, 8814-8, 8880, 8899, 8927), all from Palenque.

Diagnosis.—A subspecies of Ameiva undulata having a median row of

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enlarged gulars, the largest scale larger than any preanal or mesoptychial scale; femoral pores 13 to 18, average 15.45; lamellae under fourth toe 22 to 29, average 25.4; preanals usually paired (in two rows).

Variation.—The forty Palenque specimens show the following variation: Lamellae under fourth toe 22 to 29 (70 counts), average 25.4; femoral pores 13 to 18 (73 counts), average 15.45; first enlarged preanal single, in two, paired in 38; second preanal single in 15, paired in 25; in twenty-four

specimens all preanals are paired (two rows).

Remarks.—The present subspecies is the same as undulata undulata Smith (Occas. Papers Univ. Michigan Mus. Zool., No. 388, 1939, pp. 5, 16), but not the same as undulata undulata Hartweg and Oliver (Occas. Papers Univ. Michigan Mus. Zool., No. 359, 1937, p. 7). The latter form is restricted by Hartweg and Oliver to Tehuántepec, and the typical subspecies of undulata is therefore that which occurs about Tehuántepec. The present series from Palenque is not the same, differing primarily in having two rows of preanals instead of one.

The subspecies stuarti differs from hartwegi in having a median row of enlarged gulars, the largest scale larger than any preanal or mesoptychial scale; femoral pores fewer; lamellae under fourth toe fewer.

The subspecies is named for Doctor L. C. Stuart in recognition of his work on Ameiva.

Thamnophis rozellae, new species.

Holotype.—U. S. National Museum No. 108597 (H.M.S. field No. 8668) from Palenque, Chiapas, Mexico.

Paratypes.—U. S. National Museum Nos. 108598-108599 (H.M.S. field Nos. 8959-8960) from Aguacate, and U. S. National Museum No. 46549 from Montecristo, Tabasco, Mexico.

Diagnosis.—Stripes very dim; lateral stripes slightly evident on second and third scale rows anteriorly; belly light; scale rows 19 anteriorly, 17 or 15 posteriorly; ventrals 139 to 151; caudals 58 to 72; supralabials 7 or 8; 1 preocular; three rows of small dark spots on back, the outer row placed on first and second scale rows.

Description of holotype.—Female. Head scales normal; seven supralabials (a small scale wedged between second and third on one side), fifth largest, third and fourth entering eye; loreal quite small, the prefrontals extending downward on sides of head; infralabials 9, four in contact with anterior chinshields, which are about two-thirds the length of the posterior; preocular single; postoculars 3-4, temporals 1-3.

Scale rows 19 anteriorly and in the middle, 17 posteriorly, but with 21 rows about half-way between neck and middle of body; all dorsal scales keeled, those of outer row weakly; 140 ventrals; anal single; caudals 58. Total length 372 mm., tail 78 mm.

Ground color light brown (original scales; areas where scales have shed, light slate gray); head olive gray; a black line on the common sutures of the third and fourth, fourth and fifth, and fifth and sixth supralabials; a large, dark-edged, light-centered spot immediately behind the head, extending laterally and slightly posteriorly from the vertebral scale row to the second;

it is about two and one-half scale rows long; on the anterior border of the spot is a cream or yellow band about one scale wide, extending from ventral color to a point about three scales above corner of mouth; vertebral light stripe very dimly evident, practically absent; lateral stripe evident only as an area without dark spots, on second and third scale rows; three rows of alternating, poorly defined, small spots on each side, the row external to lateral light line placed on first and second scale rows; spots of outer row smaller than a single scale of the outer row; spots between lateral and middorsal stripes larger, poorly defined, about one scale in length and two and one-half in width on anterior part of body, smaller posteriorly; tail spots very small.

Chin yellow; belly yellow anteriorly, becoming suffused with slate posteriorly; ends of some ventrals with dark pigment on their posterior edges.

Variation.—The female paratype (U. S. National Museum 46549) and the two male paratypes (U. S. National Museum 108598–9) have the following scale counts respectively: scale rows 19–19–17, 19, 19–17–15–17, 19–19–15; ventrals 139, 148, 151; caudals 72, —, —; supralabials 8–8, 8–8, 7–7; infralabials 9–10, 9–9, 9–9; postoculars 3–3, 3–3, 3–4; total length 830 mm., 376 mm., 471 mm.; tail length 212 mm., 74+mm., 95+mm. The coloration is identical with that of the holotype.

Relationships.—The relatives of this garter snake, with which it must be compared, are eques, sumichrasti and arabdotus. From eques it differs in having no or very indistinct stripes and a lower ventral count (minimum 154 in eques, 139–151 in rozellae). From sumichrasti it differs in lacking distinct stripes and in having 19 scale rows anteriorly (17 in sumichrasti). From arabdotus it differs in having a higher ventral count (140 or less in arabdotus), narrow labial bars (broad and distinct in arabdotus) and an indistinct middorsal stripe. From Guatemalan specimens referred by others to eques it differs in lacking the middorsal stripe.

It is practically certain that some of these forms will be united in one or two "formenkreisen." At the present time the difficulty lies in the clarification of the relationship of sumichrasti to eques. Until that and other problems can be solved, I prefer not to guess what subspecific relationship the present form may have.

The species is named for my wife, who discovered and captured the type.

Xenodon mexicanus, new species.

Holotype.—U. S. National Museum No. 108596 (H.M.S. field No. 8108), male, from Piedras Negras, Guatemala, collected June 12, 1939.

Paratypes.—Two specimens from Potrero Viejo, Vera Cruz, Mexico, collected by Dyfrig McH. Forbes (Forbes Coll. No. 70, and E. H. Taylor—H.M.S. Coll. No. 5207).

Diagnosis.—A Xenodon with 19 scale rows at middle of body; maxillary teeth 12+2 or 13+2; subcaudals 35 to 42 (487); a light bar across top of head between anterior borders of orbits; ventrals 126 (124?) two 133. Total ventral count 167 to 168 (174?).

Description of holotype. - Head somewhat wider than neck, not depressed;

labial region somewhat flaring; rostral about twice as broad as deep, portion visible from above about one-eighth its distance from frontal; internasals somewhat broader than long, shorter than prefrontals; latter broader than long, extending onto sides of head; frontal somewhat shorter than its distance from end of snout, slightly longer than wide, slightly longer than interparietal suture; an indentation about in the middle of the lateral edge of each parietal; nasal divided, anterior section somewhat larger than posterior; loreal slightly higher than wide, quadrangular; one preocular; two postoculars; temporals 1+2; supralabials 7-8 (second and third fused on one side), fourth and fifth (third and fourth) entering orbit.

Mental with a labial border less than that of rostral; scales of first pair of infralabials in contact medially; ten infralabials, five (six) in contact with anterior chinshields; latter much longer than posterior chinshields; two pairs of small scales posterior to chinshields.

Dorsal scale rows 19-19-17; scales smooth, with a single apical pit; ventrals 126; anal single; subcaudals 42. Maxillary teeth 12+2. Hemipenis strongly bifurcate, basal section somewhat shorter than either lobe; sulcus divided at a point somewhat nearer base than point of bifurcation; entire organ, except extreme basal portion, spinose; distal spines somewhat smaller than proximal spines of lobe, all distinctly smaller than spines of basal section; spines of latter area increasing in size proximally; three spines nearest base of hemipenis considerably larger than others; no calyces.

Dorsal ground color olive gray; a series of thirteen crossbars on body, three on tail; crossbars somewhat darker than ground color, edged irregularly with dark brown and black, slightly constricted medially, each three to six scale rows long medially, six to eight laterally; dark edges of crossbars extending onto edges of ventrals; a small, diffused white area on the anterior and posterior median edges of some of the anterior crossbars; anterior crossbars divided posteriorly by a narrow light line which fails to reach the parietals by two scales; anterior to this point the two halves of the band fuse and extend anteriorly to the posterior edge of the prefrontals; a light line on each side extending from neck through the temporal region and across the supraocular, the lines uniting across the posterior part of the prefrontals; a faint dark line from superior posterior border of orbit to angle of jaw; snout speckled with black; sides of head with indefinite darker and lighter areas.

Chin immaculate cream; belly and tail lighter cream, with small, scattered dark brown spots of irregular outline.

Total length 548 mm., tail 90 mm.

Variation.—The largest paratype (E.H.T.-H.M.S.) has fifteen crossbars on the body, three on the tail; the coloration is similar to that of the type, except that the sides and belly are more heavily stippled with black; the markings on the nape and posterior part of the head are very indistinct. Supralabials 8–8; ventrals 133; subcaudals 35; total length 587 mm.; otherwise as in type.

The small paratype (Forbes), measuring 163 mm. in total length (tail 23 mm.), shows a remarkably different coloration. The crossbars (14 on body, 3 on tail) are very distinct, dark brown in color, with black edges;

they completely encircle the body (not on tail, which is white below) and moreover are fused medially on the belly. The head markings are as in the type, except that dark bars are present on the sutures of the supralabials. Supralabials 8–8; infralabials 9–10; ventrals 129; caudals 38; otherwise as in type.

Remarks.—The species is closely related to colubrinus and may be a subspecies of it. They differ markedly in ventral count, mexicanus having 124 to 133 (11 counts), colubrinus 141 to 153 (19 counts).

Scale counts of specimens from Guatemala discussed by Stuart (Occas. Papers Univ. Michigan Mus. Zool., No. 292, 1934, pp. 15–16, and No. 29, p. 51), and by Boulenger (Cat. Snakes Brit. Mus., vol. 2, 1894, p. 147, specimens o, p and q), from British Honduras and Amula, Guerrero, indicate that these also may be referred to mexicanus. The specimen listed by the latter author (loc. cit.) from San Gerónimo, Guatemala, does not seem to belong here (ventrals 144, caudals 39).

The type was found in short grass in camp at a late hour in the afternoon. I am indebted to Mr. Dyfrig McH. Forbes for permission to study his specimen of the species, and to Doctor Edward H. Taylor for calling my attention to the distinctness of the Mexican specimens.

Coniophanes bipunctatus biseriatus, new subspecies.

Holotype.—U. S. National Museum No. 108595 (H.M.S. field No. 8800), male, from Palenque, Chiapas, Mexico.

Paratypes.—Three specimens (H.M.S. field Nos. 8932, 8954-5) from the type locality.

Diagnosis.—Related to bipunctatus, differing in having the inner edge of the lateral dark stripes scalloped, or the lateral stripes enclosing two rows of dark spots between them; middorsal dark stripe distinct; subcaudals in males 97 to 100, in females 91 to 95.

Description of holotype.—General details of scutellation as in bipunctatus; eight supralabials, fourth and fifth entering eye; eleven infralabials; one preocular; two postoculars; temporals 1+2; two pairs of chinshields, subequal in size; six infralabials in contact with chinshields.

Maxillary teeth 17, the two posterior grooved; hemipenis as in *bipunctatus*. Scale rows 21–21–17; ventrals 133; subcaudals 100; anal divided. Total length 363 mm., tail 125 mm.

Sides of head black; dorsal surface of head black, with irregular lighter areas of brown; a fine, broken white line extending from sides of prefrontals across upper preocular to lower secondary temporal; another line, more nearly complete, extending from lower edge of nasal across angle of mouth onto sides of neck; a dark middorsal line one scale wide anteriorly, one-third of a scale wide posteriorly, disappearing at base of tail; back light brown, sides somewhat darker; an interrupted dark line on fifth scale row, extending onto tail; a row of dark brown spots involving the fifth, sixth and seventh scale rows on each side, most of the spots fused with the darker lateral color, producing a scalloped median edge on the lateral dark stripe; the series of spots disappearing on posterior part of body, absent on tail; a fine white line on third scale row, dropping to the second scale row on posterior

fifth of body; another light line on first scale row, disappearing posteriorly at the point where the light line of the third scale row drops to the second.

Belly and tail white; edges of ventrals and subcaudals with a black spot; a regular series of large black spots on either side of the mid ventral line; scales of throat black-edged; a black spot about in the middle of each chinshield.

Variation.—The three paratypes are very young specimens, all taken from eggs before hatching. However, all show the distinctive color pattern of the type. In one (8932) the spots are fused with the lateral dark band as in the type; in the other two they are free of the lateral band except at the nape. The scale counts of 8932, 8954 and 8955 respectively, are: ventrals 133, 137 (\bigcirc ?), 140 (\bigcirc ?); subcaudals 97, 91, 95; total length 131 mm., 122 mm., 135 mm.; tail length 43 mm., 41 mm., 45 mm.

Remarks.—Present records of bipunctatus demonstrate two geographical groups: one including Tehuantepec and Central Veracruz, the other including a small area of Guatemala, British Honduras and Honduras. The present specimens are the only ones known from a locality between these two areas.

The holotype was found in a grassy ravine under a log partially submerged in moist soil near the exit of a spring. The three paratypes were taken from eggs found July 20 in a rotten stump on the bank of a stream. Five eggs were in the original clutch. One was opened immediately, but the embryo was too young to be of importance. Another egg was opened on August 5 (8932), and two others on August 9 (8954–5). The embryo in the final egg was too decomposed on August 16 to preserve. It also, however, showed the characteristic pattern of this subspecies.

The present subspecies differs from bipunctatus solely in the pattern and in the higher subcaudal count. Subcaudals in male bipunctatus are 92–94 (97–100 in biseriatus); in females of bipunctatus the subcaudals range from 84 to 88 (91 to 95 in biseriatus).

Genus TANTILLA Baird and Girard.

This genus has been characterized as a group of snakes having 12 to 14 equal maxillary teeth followed posteriorly by two somewhat enlarged, grooved teeth. Many species of the genus can be characterized thus, but that the description will not fit all its members came to my attention upon dissection of a specimen from Guatemala which could not be identified with any described species. This specimen has, as nearly as I could determine, 23 maxillary teeth on one side, 25 on the other, counting the posterior pair of very feebly enlarged, very weakly grooved teeth. The posterior teeth have such feeble grooves that for some time I was under the impression that all the teeth were solid. The condition was so peculiar that I examined the teeth of all other species represented in collections at hand—atriceps, bocourti, brevissima, calamarina, coronata, eiseni, gracilis, martin-delcampoi, nigriceps nigriceps, rubrum, schistosa and wilcoxi.

Two different types of dentition are shown in these species. In one type the grooved teeth are in line with the others, there is no noticeable diastema preceding them, and they are but slightly enlarged. Three species demonstrates

strate this type: lintoni (with 23 to 25 teeth), brevissima (22), and calamarina (12).

In the second type the grooved teeth are not in line with the other teeth (i. e., set off slightly to the outer side), they are considerably larger than the others, there is a small but distinct diastema preceding them, and the grooves are much more distinct than in the other type. All the other species fall into this group. In those examined the number of teeth varies between 13 (martindelcampoi) and 17 (schistosa).

Tantilla lintoni, new species.

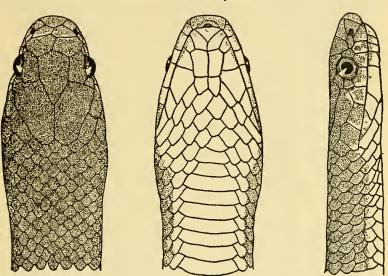


Fig. 1. Tantilla lintoni, sp. nov. Type. Much enlarged.

Holotype.—U. S. National Museum No. 108603 (H.M.S. field No. 7460), female, from Piedras Negras, Guatemala, at a locality some 45 miles by trail from Tenosique, Tabasco, Mexico, on the bank of Usumacinta River; collected May 24, 1939.

Diagnosis.—Dark brown above, white below, the dark dorsal color ending abruptly on extreme lateral edges of ventral scales; ventrals 116; subcaudals 47; anal divided; eye extremely large, its diameter nearly two-thirds its distance from tip of snout; seven supralabials; two postoculars; one preocular; first infralabials broadly in contact medially.

Description of type.—Frontal hexagonal, its greatest width slightly less than twice the greatest width of the supraocular, its greatest length two-fifths greater than its distance from end of the snout and four-fifths the greatest length of the parietal. Prefrontals nearly twice as long as internasals; rostral much broader than high, length of portion visible from above about half its distance from frontal; prefrontal narrowly separated

from supralabial on each side; nasal divided, the posterior section a third the size of the anterior; one preocular, in contact with nasal; two post-oculars; supralabials seven, third and fourth entering orbit, seventh largest and highest; temporals 1+1.

Infralabials six, four touching the anterior chinshields, one (fourth) touching posterior chinshield; mental with a labial border equal to that of rostral, separated from the chinshields by broad contact of the anterior infralabials; posterior chinshields two-thirds the length of anterior, or less; three pairs of small scales (as large as posterior chinshields or larger) follow the chinshields.

Ventrals 118; anal divided; subcaudals 47; scale rows 15; maxillary teeth nearly equal, 23 on one side, 25 on the other; the two posterior teeth very feebly grooved, feebly enlarged; total length 207 mm., tail 54 mm.

Head dark brown; centers of dorsal scales on body and tail lighter brown; a narrow edge around each dorsal scale dark brown; the difference in shade between the light central and dark surrounding color of each scale is more apparent to the naked eye than under the microscope, and might not be apparent in other specimens under certain conditions; venter cream color; dark dorsal color extending on extreme lateral tips of ventrals, there terminating very abruptly in a continuous, serrate line; snout and supralabials with unpigmented areas not well defined; some dark pigment on three anterior supralabials, very little on mental.

Comparisons.—Tantilla canula from Yucatán is somewhat similar (according to descriptions), but appears to differ in having the mental in contact with the chinshields, ventrals and subcaudals somewhat less numerous (105–110 ventrals, 37–41 subcaudals), and in having pigment on the belly as well as on the back. Tantilla breve from British Honduras differs in having the eye less than half the length of the snout, internasals more than half as long as prefrontals, frontals scarcely longer than broad, and perhaps in coloration. One of the most distinctive characters of the present species may very possibly be the large number of maxillary teeth.

Remarks.—The type was found at night, moving about in leaves on the ground in heavy forest.

The species is named for Mr. Linton P. Satterthwaite, whose kindness enabled us to collect for a considerable length of time at the archeological station at Piedras Negras.

Trimeresurus garciai, new species.

In the excellent herpetological collection from the states of Veracruz and Puebla that has been assembled recently by Mr. Dyfrig McH. Forbes and Sr. Gabino García of Potrero Viejo, Veracruz, perhaps no species comes as a greater surprise than this. Three specimens, one of which has very kindly been presented to me and another to Edward H. Taylor, were secured by one of these collectors near Cacaloapam, Puebla, on a semi-arid plain. The exact spot is near kilometer 226. All were found during the process of excavating mounds of *Mammillaria* cacti in search of *Eleutherodactylus cactorum*.

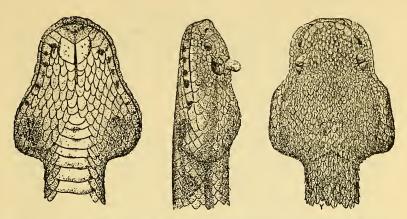


Fig. 2. Trimeresurus garciai, sp. nov. Details of cephalic scutulation, enlarged.

It is a pleasure to name the species in recognition of the most enthusiastic and persistent collector, Sr. Gavino García, who secured the specimens.

Holotype.—Dyfrig McH. Forbes Coll. No. 882, male from near Cacaloapam, Pueblo, Mexico, on a semi-arid plain near kilometer 226.

Paratypes.—U. S. National Museum No. 108602 (H.M.S. field No. 11526) and E.H.T.—H.M.S. Coll. No. 21489, both from the type locality.

Diagnosis.—Subcaudal scales entire; a vertical horn-like scale, with an inner groove, over eye; scales in 21 rows; ventrals 146; subcaudals 40; supralabials 10 to 12, none entering pit.

Description of holotype.—Head nearly three times as broad as neck; snout rounded, seen from above, slightly projecting in profile; rostral about twice as broad as high, projecting very slightly above edge of upper head scales; four convex internasals bordering rostral, the two median much smaller than the one on either side; nasal divided, the anterior section about twice as large as posterior, in contact with first supralabial; three scales forming inner edge of pit; two rows of small scales between pit and labials; one or two scales between pit and nasal; three rows between pit and eye; three or four rows between eye and labial; four canthals; median supraocular produced vertically as a broad "horn" three mm. high, 2.2 mm. long, and about a millimeter wide; horn with a deep vertical groove on inner surface and two or three shallow grooves on outer surface, radiating from base; scale preceding this somewhat larger than scales in frontal region, its posterior edge produced slightly upward against anterior edge of the horn; eleven rows of scales between horns; scales on sides of head not keeled, those on lower temporal region quite smooth and flat, others convex; lower temporal scales somewhat larger than or nearly the same size as posterior supralabial; dorsal head scales small, those posterior to frontal region heavily keeled and with small ridges radiating from the median keel of each scale; anterior dorsal head scales not keeled their full length, but with a prominent posterior knob; supralabials and infralabials eleven.

Mental with a labial border somewhat greater than that of rostral; scales of first pair of infralabials in contact behind mental; one pair of chinshields, not much longer than broad; three labials in contact with chinshield; five pairs of small scales following chinshield, then one small median scale; all ventral scales smooth, flat.

Dorsals in 23-21-17 rows, those of outer row not keeled, those of second row very weakly keeled, others rather strongly keeled; ventrals 146; anal entire; subcaudals 40, all entire.

Color.—General ground color light tan, very slightly suffused with pink, rather heavily stippled with dark brown; a series of diagonal brown blotches, sometimes dark-edged anteriorly, down middle of back; blotches extending over six to eight rows of scales transversely, about three longitudinally; they are connected diagonally by narrower extensions of the same color about one and one-half to two scales wide, so that the general effect is a zigzag line down the back; small dark blotches, arranged in two rows, very dimly evident on the sides; a light postocular stripe, one and one-half to two scales broad, not sharply defined, extends from eye through temporal region onto anterior part of neck, there disappearing; below this a somewhat narrower dark brown stripe which involves the upper half of the posterior supraocular and disappears on side of neck; supralabials light except anterior scales; a dim, somewhat star-shaped light mark on occiput; upper surface of head otherwise dark brown.

Infralabials, except anterior ones, pinkish cream, stippled with dark brown, and with a few well-defined small, very dark spots irregularly arranged; another dark spot, larger but not so well defined, on posterolateral gular region. Mental and anterior infralabials gray, heavily pigmented; other ventral head shields with scattered pigment. Belly and ventral surface of tail heavily pigmented, more posteriorly than anteriorly, with scattered light areas. Dorsal surface of tail nearly uniform dark brown, nearly black, the color extending onto ends of subcaudals; a brilliant white line extending from base of tail along second scale row to tip of tail, descending posteriorly until it lies upon the lateral edges of the subcaudals; a narrow, transverse white band across base of tail near anus.

Variation.—In ventral and caudal counts the series is amazingly uniform. All have 146 ventrals, and the two with complete tails have 40 caudals (both males).

In the two paratypes (U. S. National Museum and E.H.T.—H.M.S. respectively) the scale rows are 25–21–17, 23–21–17; supralabials 12–14, 10–11; infralabials 11–11, 11–12; scales between "horns" 13, 10; total length 407 mm., 449 mm.; tail 55 mm., 51 mm.

The dorsal pattern of the female is obscure.

Comparisons.—The species is somewhat similar to Trimeresurus undulatus, but differs markedly in having entire instead of divided subcaudals, as well as in other less obvious characters. There seems to be no other described species similar to it.